

REMARKS

I. Status of Claims

Claims 14-23 are pending in this application. Claims 1-13 were previously canceled without prejudice to and/or disclaimer of the subject matter therein. Claims 14 and 23 are independent. Claims 14, 18, 19, 22, and 23 are currently amended. Support for the additional claim language can at least be found in paragraphs [0057], [0060], [0064], and [0069] of the application as published, as well as FIG. 1. Thus, the Applicant believes that no new matter is added. Claim 24 is canceled without prejudice to and/or disclaimer of the subject matter therein.

Claims 14-23 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kikuchi et al. (USP 6,833,210) (“Kikuchi”) in view of Inoue et al. (US 2002/0055027) (“Inoue”).

The Applicant respectfully requests reconsideration of these rejections in view of the foregoing amendments and the following remarks.

II. Pending Claims

Claims 14 and 23, the only independent claims, stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Kikuchi in view of Inoue.

The Applicant respectfully submits that claim 14 is patentable over these references at least because it recites, *inter alia*, “...wherein said back-up is ***integrated within*** said separator and includes a rib having a convex and concave structure...” and “...wherein the other of the gas or coolant seal line is located on the same side as said back-up and includes a straight line portion located on a same straight line as said back-up and wherein the gas seal line is made of adhesive.” (emphasis added)

The Applicant respectfully submits that claim 23 is patentable over these references at least because it recites, *inter alia*, “...wherein said back-up is ***integrated within*** said separator and includes a rib having a convex and concave structure...” “...wherein the other of the gas or coolant seal line is located on the same side as said back-up and includes a straight line portion located on a same straight line as said back-up and the gas seal line is made from an adhesive...,” and “...wherein said back-up is formed in said separator and includes a rib having a

plurality of tunnels formed in said rib, between the separator and a cover plate, and spaced from each other, *and the cover plate contacts an adjacent separator.*”(emphasis added)

Certain embodiments of the present invention relate to an interrupted back-up 42, 43 that is formed in (i.e., *integrated*) either one of the separator 18 and the seal 32, 33. The interrupted back-up 42, 43 may include a rib 44 having a convex and concave structure (FIG. 5), or may include a plurality of protrusions (FIG. 4) spaced from each other (FIG. 3), or further may be a rib 45 having a plurality of tunnels 46 formed in the rib and between the separator 18 and a cover plate 47 and spaced from each other in the back-up extending direction E (FIG. 6). The interrupted back-up 42, 43 formed in either one of the separator 18 and the seal 32, 33 may include a combination of the structures above. For example, at the connecting coolant passage 41 of the separator 18, a plurality of protrusions 43a (FIG. 5) are formed in the separator 18 so as to be spaced from each other in a width direction E of the connecting coolant passage 41, to construct an interrupted back-up 43 at the connecting coolant passage 41. The protrusion 43a contacts, at a top surface of the protrusion 43a, a portion of a separator 18 of an adjacent fuel cell corresponding in position to a continuous seal 33 of the adjacent fuel cell in the fuel cell stacking direction (or a protrusion of a back-up 43 formed in the separator of the adjacent fuel cell), to operate as a back-up for the separator. A space 43b (FIG. 5) between adjacent protrusions 43a operates as a path for allowing coolant to pass through the interrupted back-up 43. *See* paragraphs [0064] and [0079] of the application as published.

The Applicant respectfully submits that Kikuchi does not describe a back-up that is integrated with, or formed within the separator, as required by the inventions of claim 14 and 23. Instead, in FIG. 11 of Kichuchi, it can be seen that support members 29A sit on top of the separator and are, at best, integrally attached thereto. The distinction between “integrated within” and “integrally attached” is important. As discussed in *Epcon Gas*, integrated connotes “physical combination,” while integral connotes a component or part of a device. More specifically, *Epcon Gas* states the following:

Contrary to Epcon’s characterization, the district court did not find that the stored gas supply is an “integrated” component of the apparatus of claim 16. Instead, the district court found that the stored gas supply is an

“integral” part of the claimed invention. The distinction is important. Integral is defined to mean “[c]omponents that form a complete unit.” The Contractors’ Dictionary of Equipment, Tools and Techniques 315 (1st ed. 1995). Integrated is defined to mean “[a] type of design in which two or more basic components or functions are physically, as well as electrically, combined - usually on one chassis, such as an integrated amplifier.” Modern Dictionary of Electronics 381 (7th ed. 1999). “Integral” connotes that the stored gas supply is a component part of the claimed invention, as opposed to “integrated,” which connotes physical combination. Thus, an infringing apparatus/method must have a stored gas supply as a component part, but it is not required that the gas supply be physically combined on one chassis with all other parts. *See Epcon Gas Systems, Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022.

Also, claims 22 and 23 now require a cover plate and that the cover plate (a separate element) contact an adjacent separator. Kikuchi does not describe such an arrangement. Rather, the Office Action purports to equate the adjacent separator of Kikuchi to the Applicant’s cover plate in the rejections, however, now claims 22 and 23 require a cover plate and an adjacent separator.

Further, in certain embodiments of the present invention, the gas or coolant seal line that is located on the same side as the interrupted back-up (*See FIG. 1*) ***includes a straight line portion located on a same straight line as said back-up¹ and the gas seal line is made of adhesive*** (*See* paragraph [0057] of the Applicant’s specification as published). As a result, by providing a back-up, at the non-existing portion of the seal line, separation of the seal from the separator due to no load in the fuel cell stacking direction can be prevented. In contrast, in the cited references, since the seal lines and the back-ups are offset from each other in the stacking direction, and the gas seal lines are made form rubber gasket (not adhesive), the structure differs from the inventions of claims 14 and 23.

Accordingly, lacking any teaching and/or suggestion of each and every element of

¹ That is, the seal line including a gas seal line 33 and a coolant seal line 32, the gas seal line 33 including a continuous seal line portion 33b and an interrupted seal line portion 33a the coolant seal line 32 including a continuous seal line portion 32b and an interrupted seal line portion 32a, the gas seal line portions 33a and 33b being disposed on a same straight line, and the coolant seal line portions 32a and 32b being disposed on a same straight line, gas and coolant seal lines 33 and 32 being overlapped in a fuel cell stacking direction.

Applicant's claims, the inventions of claims 14 and 23 are neither anticipated nor rendered obvious by the cited references. It is respectfully submitted that Inoue does not address the above-identified deficiencies of Kikuchi.

As discussed in MPEP 2143.01, obviousness can be established by combining or modifying the *teachings of the prior art* to produce the claimed invention *only* where there is some *teaching, suggestion, or motivation* to do so. *In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006) (discussing rationale underlying the motivation-suggestion-teaching **>test<* as a guard against using hindsight in an obviousness analysis).

However, the Applicant respectfully submits that the Office Action *does not* provide any teaching, suggestion, or motivation in *the prior art* to modify Kikuchi in the manner as claimed in the inventions of claims 14 and 23. As discussed in *KSR Int'l Co. v. Teleflex, et al.*, No. 04-1350, (U.S. Apr. 30, 2007), it remains necessary to identify the reason why a person of ordinary skill in the art would have been prompted to modify the prior art in the manner as recited in the invention of claims 14 and 23. Obviousness cannot be sustained on mere conclusory statements.

Therefore, for at least these reasons, the Applicant respectfully submits that claims 14 and 23, as well as their dependent claims, are patentable over Kikuchi and Inoue.

III. Conclusion

In view of the foregoing discussion, the Applicants respectfully submit that the present application is in all aspects in allowable condition. Favorable reconsideration and early issuance of a Notice of Allowance are therefore respectfully requested.

The Examiner is invited to contact the undersigned at (202) 220-4420 to discuss any matter concerning this application. The Office is authorized to charge any fees related to this communication to Deposit Account No. 11-0600.

Respectfully submitted,

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/Daniel G. Shanley/
Daniel G. Shanley
(Reg. No. 54,863)

KENYON & KENYON LLP
1500 K Street, N.W., Suite 700
Washington, DC 20005-1257
Tel: (202) 220-4200
Fax: (202) 220-4201